

Pilot Field Test Study  
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The Field Test study is currently in full swing, preceded by the successful completion of the Pilot Field Test study that paved the way for collecting data on the astronauts in the medical tent in Kazakhstan. Abigail Sherriff worked alongside Logan Dobbe on one Field Test aspect to determine foot clearance over obstacles (5cm, 10cm, and 15cm) using APDM Inc. Internal Measurement Units (IMU) worn by the astronauts. They created a program to accurately calculate foot clearance using the accelerometer, magnetometer, and gyroscope data with the IMUs attached to the top of the shoes. To validate the functionality of their program, they completed a successful study on test subjects performing various tasks in an optical motion studio, considered a gold standard in biomechanics research. Future work will include further validation and expanding the program to include other analyses. This investigation was sponsored in part by the National Space Biomedical Research Institute through NASA NCC 9-58.